

ENTOMOLOGICAL NOTES FROM PORT DARWIN, &c.

BY JAMES J. WALKER, R.N., F.L.S.

We arrived at Tanjong Priok on May 7th, but as we left again on the 9th at daybreak, and were busy coaling, &c., all the time, I had, to my regret, no chance of going on to Batavia. I had, however, a turn round the immediate vicinity of the harbour, but as the weather was rainy and unfavourable, I did not meet with very many insects. The country here is sandy and entirely alluvial and very swampy in places, though covered with dense vegetation, coco-nut palms predominating. There seemed to be a fair sprinkling of butterflies along the roads, &c., but mostly of small and comparatively inconspicuous kinds. I met with examples of three European species, viz., *Neptis aceris*, *Lycæna bætica*, and *L. trochilus*. The commonest butterfly appeared to be a black and greenish-white *Danais*, which abounded in shady places. By brushing long grass with my net, I obtained a fair variety of small *Coleoptera* and *Hemiptera*, but the only conspicuous beetle I got was a beautiful blue Cicindelid, with red legs, which at first I mistook for an *Agra!*, it is, I believe, a species of *Collyris*. A beautiful little metallic Heteromeron, allied to *Helops*, found not rarely under logs, is also worth notice. On the whole, however, I was somewhat disappointed with Tanjong Priok, though it must be acknowledged that I had no good opportunity of collecting.

We had a fine view of the picturesque north coast of Java on our way to Timor, and especially of the fine volcano, "Gunong Agong" (10,500 feet), in the Island of Bali, as we passed through the Strait between that Island and Lombok on May 12th.

On the 13th our course lay between the Islands of Flores and Chandana (Sandalwood Island), but at too great a distance to see much of either of them; we also got a distant glimpse of Sumbawa.

On the 15th, at 8.30 a.m., we arrived off Koepang (Timor), and anchored about half a mile off the town. The country here is of moderate elevation, but very rugged, with some high mountain peaks in the background; it appears somewhat arid, but there is no lack of vegetation. A fine "fan palm," 100 feet or more in height (*Borassus flabelliformis*), is very conspicuous, and large *Ficus* and other trees are planted on either side of the principal streets of the town. Koepang, which is one of the oldest Dutch settlements in the East, is an exceedingly neat and clean place, with an abundant supply of water, but it is said to be unhealthy; there are but few European residents, most of the trade being in the hands of the Chinese. A fine stream

comes down from the hills, just to the north of the _____ and, having an opportunity of landing in the afternoon, I rambled along its bed for a couple of miles or so. Here I saw a good many insects, including the fine and rare *Papilio Cenomous* (I think), but it kept well out of reach, and I got only one poor specimen. I also took a fine yellow *Ornithoptera*, the only one I saw. The commonest insect was a very beautiful *Pieris*, richly marked beneath with deep orange on a velvety black ground.

On the following day (16th) we moved over to the Island of Semao, about eight miles distant, where the Dutch Government keep a store of coal, and while we were coaling, I managed to get the forenoon on shore, and for the first time since leaving England, met with tolerable success in *Lepidoptera*. The very first butterfly I saw (and caught) was the rare and beautiful *Cethosia Leschenaultii*, unfortunately a little damaged; during the forenoon I took another in most beautiful order, and missed a third. The Island, for some distance inland, consists of upheaved coral rock, covered with dense brushwood and trees of moderate size, and very difficult to traverse; but I found a good path which extended for more than a mile through the bush, and here I was able to get some very satisfactory collecting. There were several *Papilios* (*Polydorus*, *Pammon* ?, &c.), and a fine blue species, allied to *P. Ulysses*, was seen once or twice, but it kept too high up to be caught; a very fine *Charaxes* was also seen several times, but I succeeded in getting only one very bad specimen. *Pieris*, *Callidryas* (some fine species), *Terias*, *Pontia*, and *Danais*, were well represented, and flying with the latter I got three beautiful specimens of a *Cethosia* (since found at Port Darwin, I think it will be *C. Penthesilea*, Godt.), deceptively like *Danais Chrysippus* on the wing. *Neptis aceris*, or a closely allied species, was very abundant, and a fine *Thestias* was more often seen than caught; altogether I caught or observed at least 35 species of butterflies, and brought off something like 100 specimens, quite as many as I could set out at once. The place was too dry for *Coleoptera*, although I tried beating, &c.; a species of *Mylabris*, very like some of the Mediterranean forms, was almost the only beetle observed, all the dead timber in the clearings, etc., was full of "white ants," to the exclusion of beetles. *Hymenoptera* were well represented, and I took one or two fine and conspicuous species. Altogether I liked Semao very much as a collecting ground, and was very sorry that we had to leave so soon.

We were off again at daylight on the 17th, and at 9 a.m. sighted Cartier Islet, our first station on the surveying ground, its position

being first OMOLO¹ by the wreck of a fine barque lying nearly high and dry on the reef. She appeared to have been there for a long time, but a large part of her stores and fittings remained intact, and were found to be worth appropriating. Cartier is a mere sand bank, less than half-a-mile in length, and destitute of even the smallest trace of vegetation, but it is surrounded by an extensive coral reef, over which I had to walk, through water two feet and more in depth for a mile and a half, and pretty hard work, too, I found it. There was, of course, nothing to do on the Islet except to look for shells, of which I found a good many, and while looking for these I met with a very curious and interesting little Hemipteron (I fancy of the genus *Halobatodes*), inhabiting the sand beneath stones near low water mark, à la Aëpys. Turtle seemed to abound on the Islet, judging from the numerous traces observed, and many were seen close to the shore in the evening, but none could be caught.

We left Cartier on the 20th, and made the N. W. Australian coast about Cape Bougainville, about 2 p.m. the next day. The first sight of Australia was not very prepossessing, being (as is the case for several hundred miles east and west of the present point) a low, featureless, red sandstone coast about 200 feet high, of very sterile aspect, densely clothed with dry looking scrub, the innumerable off-lying Islands (very imperfectly indicated in the existing charts) being of exactly the same character. This is our "surveying ground" for the present season, extending from Cape Bougainville (long. 126° E.) to the entrance of King's Sound.

On the 22nd we anchored close to the "Low Rocks" in Admiralty Gulf, in time for me to get a turn on shore. The Island on which I landed was not more than six acres in extent, but I managed to bag five or six species of *Lycenidæ*, one or two of which I have not since met with. The Islet is composed of a very hard white sandstone, and is covered with tall dry grass, almost like a crop of corn. On the 23rd we moved about 25 miles to an unnamed Island in the "Montalivet" group, to which we gave the name of Baudin; this is barely a mile long by half as wide, but of very varied surface, and covered with vegetation and brushwood. I spent the day on shore, from 10.30 a.m. to 6 p.m., but found the walking very fatiguing, as the whole Island is strewn with great blocks of ironstone (of which the Island is in large part composed), which are concealed by the high grass, &c., and the "plague of flies," of which all voyagers to these parts speak in no measured terms, was here in full force; they kept one fully occupied in brushing them out of one's eyes, nose, &c.—fortunately they do

not bite! I saw and captured a good variety of butterflies, at least 20 species being observed, the most numerous individually was a black bordered *Pieris*. The fine *Papilio Erithonius* was not rare, but shy and very difficult to obtain (on a subsequent visit to the Island I found the larva pretty freely, and have now a good many pupæ); I also noticed *Euplæa*, *Junonia*, *Terias*, *Lycæna*, *Callidryas*, *Elodina*, &c., most of which I captured, but I could find scarcely any *Coleoptera*. Next day (24th) we proceeded to the westward, among a perfect labyrinth of small sterile islands, for the most part uncharted and unnamed, and in the afternoon came to an anchor off a small rocky Islet, which we called "Queen's Islet," it being apparently unnamed on the chart. Landing here for an hour or two (until I was fairly driven off by the flies!), I found a good deal of grassy and bushy vegetation, and a few *Lepidoptera*, chiefly *Lycenidae*, but also a nice *Pieris* allied to *P. Teutonia*, *Euplæa Pelor*?, &c. On the following day (25th) five of our officers, including myself, attempted to land on "Bigge Island," but we were met on the beach by a party of eight or ten natives, who showed such decided symptoms of hostility, that we thought it best not to persevere in our attempt (as it was, some spears were thrown at us, none of which fortunately took effect); they were great strapping fellows fully six feet high, perfectly black, and with absolutely no clothing, except a few streaks of white paint on the upper part of their bodies. I have since been informed at Port Darwin that all the natives of the N.W. coast are hostile and untrustworthy, except in the immediate vicinity of the settlements. 26th, we ran down to De Freycinet Island, a very singular little rock, capped with a great mass of ironstone like a huge wall: landed here, but got very little. 27th, again proceeded westward, and anchored off one of the "Heywood Group," where I landed (armed!), but saw little except sand-flies, though there was a fair amount of rough vegetation. 29th, proceeded to the entrance of King's Sound, and anchored among the "Buccaneer Islands" (named I believe by Dampier!); found some natives on the Island where we landed for observations, but they did not come near us, the steam whistle seeming to frighten them very much. I got a few *Lycenidae* and small moths here, but very little else, these Islands are at this season arid and parched almost beyond belief; it is a mystery to me how the natives manage for fresh water. On the 30th we commenced our return to the eastward, and calling at Queen's Islet and Baudin Island (at which latter place we left a party for tidal observations), we arrived at Port Darwin on the afternoon of June 5th, and I landed for the first time on the mainland of Australia.

We remained here until the 9th, during which time I had some very fair collecting, but as all the species then met with were taken on the second (present) visit, I will not refer to them at present. On the 11th we were again at Baudin Island, where we found the tide party all right, though the natives had paid them a visit, but not, I think, with any hostile intention ; they appear to wander from Island to Island on rude rafts or catamarans in search of turtle, &c. We stayed here two days, during which time I got a good many *Lepidoptera*, including the larvae of *Papilio Erithonius* (which are now producing very fine butterflies), but scarcely a beetle of any sort, though I had laid down traps of dead shell fish, &c. *Coleoptera* are miserably scarce on this coast at the present (dry) season. Having relieved the tide watching party and landed (to make room in the ship) a large quantity of stores and provisions, we left for Port Darwin, where we arrived on the evening of the 15th.

The harbour of Port Darwin is one of the finest in Australia, or indeed in the world, but the shores cannot be called at all picturesque, being low and uniform in character, and covered with a dense growth of mangroves (though the place is very healthy) ; they gradually rise into a sort of level table land, covered with an open scrub, chiefly composed of stunted bushes of two or three species of *Eucalyptus*, with larger trees of the same kind scattered about ; in the gullies there is a more tropical looking growth of bamboos, small fan palms, a large (?) Euphorbiaceous tree, locally known as "milkwood," *Pandani*, *Zamia*, &c., but at present the soil is excessively dry, and the herbage and grass, for the most part, burnt up by the sun. The town (Palmerston), which is of some importance as the terminus of the overland telegraph to Adelaide, as well as of the projected overland railway (of which about 160 miles are complete), is built on a bluff overhanging the harbour, and is well laid out and prosperous-looking, although nearly all the houses are built of corrugated iron ; the inhabitants number, I should say, about 2500, of whom at least four-fifths are Chinese, who have the largest quarter of the town to themselves. There is very little cultivation, except in some of the gullies, where the Chinamen manage, by industrious irrigation, to keep some market gardens going, and to produce a very fair supply of the usual tropical fruits and vegetables. Natives abound in the bush skirting the town, and very savage looking fellows some of them are, but they are quite safe within a radius of at least thirty miles from here.

My walks have not as yet extended for more than four or five miles from the settlement (some of the very best places for collecting

being the lanes leading from the landing place up to the town), but I have managed to accumulate a nice little lot of *Lepidoptera* and *Hymenoptera*; other Orders of insects, except perhaps *Orthoptera*, being just now very poorly represented. As for *Coleoptera*, one may say there are practically none, a day's work producing only a few miserable *Coceanellidae*, *Galerucidae*, and the like; a smooth, red *Hispa*? (the larva of which feeds on the *Zamia*, and strips the leaves down to the midrib) is the only insect of this Order which can be called at all common. But this is the height of the "dry season" (and dry it is, in all conscience), and during the rains I am told that beetles are only too numerous. One very singular circumstance is that there are apparently no *Coprophaga*; in spite of diligent search in all varieties of their food, I have not taken a single specimen; ants appear to do their work here. In butterflies I have already taken over 40 species, including *Papilio Erythronius* (also larva), *Callidryas* (3 spp.), *Terias* (3), *Elodina* (1), *Pieris* (2), *Aeræa Andromache*, *Euryces Cressida* (not rare), *Diadema* (4 spp.), *Danais* (3), *Euplæa* (3 or more), *Junonia* (2), *Cethosia* (? *Penthesilea*, Godt., very common and fine), *Melanitis Leda* (abundant, very fine and variable), *Amblypodia* (lovely sp.), *Thecla*, *Lycæna* (6 spp. at least), *Cœnonympha*, *Satyrus* (2 spp.), *Hesperiæ*, perhaps 5 spp., one of which, a great black and fulvous fellow, three inches in expanse, is the grandest thing of the group I have yet met with. *Diadema Bolina* runs to grand vars. of the ♀, but cannot be called abundant, and I have not found the larva yet, as I did in Tahiti, &c.

There is a good variety of moths (*Pyrales*, perhaps, abounding more than others), including one or two fine day flyers; but the wet season appears to be the time for them, as for the beetles. *Termites* and ants swarm everywhere, and of the latter there is one most objectionable species (? *Oecophylla smaragdina*), a green fellow, about the size of *F. rufa*, which makes large nests by drawing leaves together with a sort of white silk, and is so abundant that eight or ten of these nests may be seen on one bush. These fellows get down one's back while traversing the scrub, and bite most severely, besides emitting a very pungent smell of formic acid; fortunately they do not sting, as some of the species living under stones do. There are "garrapatas" here, but luckily they are not numerous; also (I hear) leeches in some of the marshy places. Dragon-flies are abundant, but none are at all remarkable; some fine locusts, *Mantidæ*, &c., chiefly in the scrub land, and a superabundance of mosquitoes, sand flies, &c., in the mangrove swamps, which (contrary to what I have always heard) pro-

duee plenty of butterflies, chiefly *Danais*, *Euplaea*, &c. I get a species of *Halobates* very freely by fishing from the ship's side with a water net. Land shells are few in species and very hard to procure alive at present, though two of the *Helices* are very fine.

There are at least half-a-dozen people here who go in for collecting butterflies, &c., in an amateur sort of way, and I have been able to get a fair amount of information out of them as to the local insects; all agree that this is about the worst time of year, though, judging from what I see in their collections, I find that in my short visit I have obtained very nearly all the butterflies which they have—just under 50 species.

H.M.S. "Penguin," Port Darwin:

June 16th, 1890.

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THE LARVA OF *EUPŒCILIA GEYERIANA*.

BY NELSON M. RICHARDSON, B.A., F.E.S.

Whilst on a visit to the Rev. O. P. Cambridge early in July last, I had the satisfaction of finding the larva of *Eupœcilia Geyeriana* in the seed capsules of *Pedicularis palustris*, thereby confirming the suggestion of Mr. C. G. Barrett made no less than sixteen years and a half ago (Ent. Mo. Mag., xi, 192), and as I have proved its identity by breeding the imago, I append the following description:—

Length of full-fed larva, about 6 lines. Shape decidedly stumpy, the head being only about half the breadth of the middle segments, the width of each segment increasing gradually up to the 5th, after which there is but little alteration of breadth until the 12th, which is narrower, the 13th being still more narrow and about equal in breadth to the 2nd. The transverse section of the body would be nearly circular.

The head is polished, very dark greyish-brown, nearly black, with a reddish tinge about the jaws; plate on 2nd segment like the head, but somewhat mottled with a lighter shade of the same colour, and with a lighter brownish dorsal line. Ground colour of larva a very light greyish-brown (burnt umber with a little black in it produces the right colour), rather darker above the spiracles, especially in the first few segments. The dorsal vessel shows through as a rather darker brown dorsal line. The usual warts are large and conspicuous, though not much raised, those near the head being of the colour of the plate on 2nd segment, whereas the rest

ENTOMOLOGICAL NOTES FROM PORT DARWIN, &c.

(Continued).

BY JAMES J. WALKER, R.N., F.L.S.

I have just returned from a little trip "up country," otherwise I should not have a great deal to record. The weather here, though still brilliantly fine, is now getting very hot, and the place is utterly parched up, though curiously enough, a few species of *Coleoptera* are putting in an appearance for the first time. *Lepidoptera* are nowhere now, though yesterday I got a good addition to the local list of butterflies (*Charaxes Sempronius*) on board the ship!

We left Port Darwin for our survey work on July 3rd, arriving at Baudin Island, our head quarters in those parts, on the evening of the 5th, where we found our tide-watching party all well, and unmolested by natives. On the 7th we moved to "Low Rocks," in Admiralty Gulf, where we remained until the 16th, making magnetic and other observations; I landed only once for a few hours, and got but one moth, singularly like *Zeuzera æsculi* (of this species I have since found the larvæ feeding in the large woody roots of a species of bean which grows on sandy shores). From the 16th to 19th sounding and surveying between Baudin and Troughton Islands, anchoring off the former Island until the 24th. I landed several times, and got a few nice insects and land shells, taking advantage of a lot of big stones being raised out of the ground on the summit to build a cairn; here I took two or three nice species of *Heteromera*, allied to *Helops* (mostly deep blue in colour), a curious flat, broad *Elater* of small size (not rare), a *Harpalus*-thing under dead leaves, &c. A fine shark, 9 feet long, was caught (and eaten) on the 19th; his back bone, laid to bleach on the sand above high-water mark, promptly attracted numerous examples of a beautiful blue *Saprinus*, of a *Dermestes*, like our *D. tessellatus*, and *Corynetes violaceus*, which latter beetle appears to be all over the world. A very fine *Bostrichus*, quite an inch long, was brought me from the neighbouring Condillac Island. Of butterflies there were but few, with the exception of a fine *Pieris* (I think a form of *P. Teutonia*), which was common and in good condition; I also found the larva feeding on *Capparis*, and bred a nice series.

On the 25th we moved down to Bigge Island, and cruised about there until the 29th, when we began to make our way back to Port Darwin; on that afternoon I was landed on one of the Montalivet Islands, of similar character to Baudin, but more rugged and rocky, where I got a few land shells but very little else, although there was

no lack of vegetation, and even some good-sized trees. The 30th at Baudin again, where I got the afternoon ashore, but, the tide being low, I went in for collecting sea shells on the beach, or rather reef, and got a fair variety. August 1st, I landed at 10 a.m. with a survey party on "Jones' Island," and spent the day there very pleasantly. This is little more than a sand bank, about $1\frac{1}{4}$ mile in circumference at high water, but surrounded by a very extensive reef, which dries out at low tide for more than a mile all round ; the Island itself is covered with coarse grass and herbage, and in the centre is a large deposit of an inferior kind of guano, which had been worked at some previous period, as there were eight or ten large iron water tanks left there, besides numbers of broken shovels, &c., and some large heaps of the guano piled up ready to be carried away. The number of sea birds on the Island was astonishing, but unfortunately none were breeding at the time ; I picked up a few *Coleoptera* (*Harpalus*, *Opatrum*, *Corynetes*, &c.) and *Hymenoptera*, not to mention a couple of human crania, apparently those of aborigines, but very old—they had been there quite 20 years I should say ; however, I thought them worth bringing off. No land shells, but a varied assortment of sea shells on the reef at low water ; it was 10 p.m. before we were able to leave the Island, on account of the tide, and the ship having moved out some eight miles, it was nearly 2 a.m. before we got on board again.

We left for Port Darwin on the following afternoon, and arrived there at 8 a.m. on the 6th. In the course of one or two walks on shore I saw exceedingly few insects on the move, only stray specimens of *Euryceus* and *Delias Aganippe*, which latter I failed to catch ; but I fell in with a few nice forms of *Coleoptera* for the first time at this place, chiefly under stones and logs in very dry places. Perhaps the most interesting was a Brenthid, almost a *fac simile* of *Amorphocephalus*, of which I found six examples under a piece of ironstone, in a nest of medium-sized red ants. Another "ant's nester," a little yellow species near *Coluocera*, but larger and more oval, occurred in large numbers with a very small black ant. One or two fine *Carabidae* (notably a thing like a large *Paeulus lepidus*, in plenty) were found under the stones, and a very nice *Heteromeron* (? *Toxicum* sp.), with two long horns on head in ♂, occurred under a log (I afterwards got a good many more up country). A *Hispa*, exceedingly like *H. atra* in all respects, a nice Langurid, and one or two very queer forms of *Hemiptera* were obtained by sweeping ; while a moderate-sized and deeply punctured black *Heteromeron*, probably a near ally of *Pandarus*, occurred under logs somewhat freely, along with one or two *Elateridae*, &c.

On the 8th I started from Port Darwin on a week's leave, for a trip up the railway line, which extends about 150 miles into the interior to a place called "Pine Creek;" I was kindly furnished by the authorities with a 1st class pass to the end of the line, but after making due enquiries, I resolved to at least break the journey at the "Adelaide River" Station, 77 miles from Port Darwin, the presence of permanent water being a great inducement to me to stay there. I left at 8 a.m., and it was a somewhat monotonous ride through a flat or slightly undulating country, covered with the endless *Eucalyptus* forest, and diversified only by the huge nests of the *Termites*, some of which were fully 15 or 18 feet high; one very remarkable kind, seen in only one or two places along the line, being of a *thin, flat, wedge-shape*, about 5 feet high, and what is most singular, the long direction of the sides is invariably the same, viz., north and south. I greatly regretted that I had no opportunity of closely examining these remarkable nests, which I do not remember having seen any account of in all the books I have come across. Arriving at the Adelaide River soon after noon, I saw at once that it was the best place so far on the line, so having obtained good, though somewhat homely, accommodation, I stayed here until noon of the 12th. The river, which falls into the sea to the eastward of Port Darwin, about 120 miles from my position, consisted mainly of a series of deep pools of beautifully clear and pure water, connected by a shallow rapid stream flowing over a bed of coarse gravel; in the rainy season it reaches a level of more than 30 feet above the present one, as shown by the flood-rubbish entangled in the branches of the trees. A dense and luxuriant belt of bamboos, *Ficus*, etc., fringes both banks of the river, the surrounding country being as usual lightly timbered with *Eucalyptus*, *Pandanus*, *Casuarina*, *Grevillea* (the latter tree now leafless, but a mass of scarlet blossom, the resort of flocks of most noisy green and crimson parrots), and with long coarse grass underneath, very few flowers, except a few Compositæ. There were not many butterflies, though *Eurycus* was fairly common, and I got a pretty *Precis* new to me, one *Charaxes Sempronius*, one or two *Lycænæ* new to me, &c. Beetles were, I soon found, to be had by diligent working, and during my stay I must have got at least 150 species (I have already mounted over 100); the sweeping for about half-an-hour at sunset was very good, and I was astonished at the number of European, and even British, genera which turned up—varied of course by exotic-looking things, but not nearly to the degree which I should have imagined. Such things as *Bledius*, *Philonthus*, *Bembidium*, *Apion*, *Nanophyes?*, *Chilocorus* (blue sp.), *Hypocyptus*,

Hispa, *Cusnonia* (very nice sp.), *Trachys*, *Aphanisticus*, *Throscus* (very small sp.), *Crepidodera*, *Thyamis*, *Saprinus*, *Phalacrus*, *Coceinella*, *Epilachna*?, *Psammobius*, *Bryaxis*, *Mycetoporus*, *Anthocomus*, &c., &c., constantly turning up in the net. Under fig-tree bark, besides a fine grey Longicorn, I found plenty of *Hypoborus*, very like *H. fucus*, accompanied by a *Cerylon*?, and a thing not very unlike a small *Teredus*. Lots of *Coleoptera* (as well as moths) came to the lamp in the evening, chiefly small chafers allied to *Serica*, *Elmis*? (abundant), *Trox*, *Harpalus*, &c. In the pools along the bank of the river I got a very nice little lot of small water-beetles, all I think, with one exception, to be referred to European genera, the exception being a black *Volvulus*? in plenty; the chief things being *Gyrinus* (3 spp., one the smallest I had ever seen), *Agabus*, *Hyphydrus*?, *Hydroporus* (many, some very minute), *Hydrobius*, *Berosus*, *Cyclonotum*, *Hydrochus* (swarms), *Hydræna*, &c., also some interesting water-bugs near *Ranatra*, *Corixa*, *Plea*, &c. Most of my best captures, however, were made under logs and stones, within a quarter of a mile from where I was staying, close to the Railway Station; on the river bank I found *Oodes*?, *Chlaenius*, *Dyschirius*, *Stenolophus*, *Clivina*, etc., and in drier situations 4 spp. of *Carenum* (unfortunately the two best, very fine green species, only singly), *Pæcilius*, *Harpalus* (several), a lot of a fine little Lucanid between *Passalus* and *Dorcus*, but, I think, nearer the former, several *Heteromera*, a fine and very curious black weevil near *Otiorhynchus*, &c., &c. In a nest of a large stinging ant I got four or five of the finest *Pselaphid* (near *Ctenistes*) I have ever seen; this made me hope to meet with one or other of the *Paussidæ*, but they did not put in an appearance. In stercores, several *Onthophagi* of small size (one nearly a *fac simile* of *O. taurus*), a fine blue *Saprinus*, &c. *Hemiptera* pretty numerous, including one or two very fine forms. *Hymenoptera* only tolerably represented. I took the finest *Æschna* I ever saw down by the river (where I resorted to bathe morning and evening), as well as some other interesting dragon flies, &c. *Diptera*, including mosquitoes, most abundant and troublesome, but no great variety.

I found the further I went away from the immediate neighbourhood of the river, the less there was to be had, so confined myself almost entirely to its banks, going perhaps over an extent of four or five miles only. Lots of natives, but all "tame," as the saying is here, and apparently not at all bad fellows, though burdened with a minimum of clothing. Altogether my stay at the Adelaide River was a very enjoyable and, I think, a fairly successful one, and should we come

here next year, as seems not unlikely, I hope to be able to have a similar trip a little earlier in the season. On the 12th, at noon, I resumed my trip up the line to a place called "Union Reefs," about 140 miles up, where I had a kind invitation from the manager of some gold (quartz) mines. Arrived there at 4.20, after a somewhat tedious journey through a very arid country, timbered with the usual *Eucalyptus*, &c. (no place anywhere to compare with the one which I had just left), I had just time to look over the operations for crushing the quartz and extracting the gold by means of mercury (which operations are very interesting) before it was dark, and being very tired, turned in early. Next morning, as I had to start back to Port Darwin at 8.20, I roused out at 6 a.m. (sunrise), and got an hour's collecting before breakfast; the country was miserably arid, but I got one or two nice fresh *Carabidae*, *Heteromera*, weevils, &c., but mostly single specimens. It was a long and very hot ride back to Port Darwin, where I arrived at 4.30 p.m., but I greatly enjoyed the few days out of the ship, the results of which have kept me busy ever since. Have been out once or twice collecting since my return, and keep finding a few additions each time; *Pæcillus?* sp.? now swarms under nearly every big log or stone, but you never see one anywhere else; one or two other nice *Carabidae*, &c., turn up occasionally with it.

H.M.S. "Penguin," Port Darwin :

August 17th, 1890.

NOTE ON THREE AUSTRALIAN CARABIDÆ.

BY H. W. BATES F.R.S.

The three interesting species here mentioned formed part of a small series of Australian species sent to me for determination, some time ago, by Mr. A. S. Olliff, of Sydney. The new genus of the *Broscus* group is interesting as being closely allied to a genus, *Lychnus*, hitherto known only from Tasmania, and as adding another generic form to the numerous and varied Australasian series of this sub-family.

EURYLYCHNUS, nov. gen., sub-fam. BROSCINÆ.

Of shorter form than the typical *Broscinæ*, the elytra especially briefly oblong-ovate. Head small, strongly sulcate-constricted immediately behind the prominent eyes; frontal furrows deep, lateral, and the groove and ridge close to the eye and over the base of the antennæ sharply developed. Antennæ short, joints 4—11 ovate, contracted at their bases, joints 1—4 (except apex of the 4th) glabrous. Terminal